

Application No. 09/762,225

Title: A DEVICE FOR AND A METHOD OF DETECTING A DISEASE OF THE UDDER OF AN ANIMAL

Amendment responsive to Office Action dated: April 14, 2004

**Remarks**

Claims 1-20 remain in this application. Claim 15 has been amended to correct the spelling of the word "value" and to change the dependency thereof to claim 2. Claims 1 and 8 are the only independent claims for consideration.

The present invention is concerned with a device and a method for detecting the disease in the udder of an animal. Such animals are typically dairy animals such as cows or goats, where an udder disease directly affects not only the animal's health, but further its ability to produce milk, and such disease may spread to other animals in the herd unless detected. Thus, the ability to detect a disease in the udder of an animal is commercially important to the dairy farmer.

The present invention uniquely provides the ability to detect the disease of an individual teat of an animal. This is accomplished by a device using comparison value for a parameter related to the quantity of milk extracted from a first teat and a second teat of the udder during at least one milking operation, determining a deviation of the parameter from a comparison value, a display which provides an indication of an inflammation of the first teat in the event the deviation exceeds a certain value, and arranging the determining device to define the comparison value by including the level of the parameter regarding the second teat during the milking operation.

The claims have all been initially rejected on the van der Berg 5,704,311 patent. The van der Berg '311 patent discloses an apparatus and a method for milking animals. The apparatus includes a mastitis sensor 25 for sensing if the milk which is extracted is infected by means of a conductivity

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measurement. In column 8, from line 22 forward it is stated that "[s]ignals M from individual milk flow sensors 25 are applied to this computer 10, each of these signals S being indicative of the milk flow in a relevant milk line 19. In additional, signals M supplied by each of the mastitis sensors are transmitted to computer 10. In the present embodiment, the mastitis sensors are milk conductivity sensors." The signals supplied by these sensors are a measure of the conductivity of the milk. Thus, the signals provided by the sensor 25 are transmitted to a computer in which they are compared to progressive, weighted or non-weighted average of the milk conductivity recorded during previous milking turns, whereupon, when the last measured milk conductivity exceeds the progressive, weighted or non-weighted average to an excessive extent, an attention signal is displayed. This signal can then be used for determining if the animal is infected.

Consequently, the comparison made by van den Berg includes a comparison with a preceding milking operation. In contrast, the present invention as defined by the apparatus of claim 1 and the method of claim 8 relies on a comparison of a parameter from one teat of the animal with the corresponding parameter of another teat of the animal. These parameters are obtained during the same milking operation. Thus, it is not necessary to delay a comparison of values from one milking operation to the next such that an initial baseline milk conductivity value is required. Moreover, it is not necessary to store data corresponding to the parameters for future comparisons. Instead, the determination of whether an animal is infected or not can be made immediately by the expedient of comparing a parameter from two different teats during the instant milking operation.

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In comparing this novel feature of the independent claims 1 and 8 with the teachings of van den Berg '311, it is manifest that there is no teaching, suggestion or motivation in the van den Berg reference to detect udder disease by the comparison of parameters between two different teats during a single milking operation. Moreover, there is no motivation or suggestion in the prior art to modify the van den Berg teachings to anticipate or render obvious the invention as set forth in the claims of the present application. Consequently, the claimed invention of the present application is novel and provides both a method and a device by means of which it is possible to establish whether an individual teat and udder segment suffer from a disease such as mastitis in an easy and reliable manner.

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Applicant earnestly submits that the present application is now in condition for allowance and early issuance of the Notice of Allowance is courteously requested. Should the Examiner have any additional issues which may be resolved by a telephone conference, they may be addressed to the undersigned at 1-800-445-3460. Any additional fees necessitated by this submission may be charged to deposit account 19-0522.

Respectfully submitted,

HOVEY WILLIAMS LLP

By 

Thomas H. Van Hoozer, Reg. #32761

Suite 400

2405 Grand Boulevard

Kansas City, Missouri 64108

(816) 474-9050

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